

1451 between adjacent signal contacts when said impedance tuner block is inserted into said connector housing, said impedance tuner block including an impedance adjusting insert.

3. (once amended) The connector assembly of claim 1 further including a plurality of differential pairs of signal contacts, and a ground contact separating each of said differential pairs, wherein said impedance tuner block includes a plurality of isolation ribs as said isolation layers, said differential pairs being separated from said ground contacts by said isolation ribs.

4. (once amended) The connector assembly of claim 1 wherein said signal contacts in said differential pair are arranged in a first plane and wherein said impedance tuner block retains said at least one impedance adjusting insert oriented parallel to said first plane.

5. (once amended) The connector assembly of claim 1 further including an impedance adjusting insert securable to said impedance tuner block adjacent to said at least two channels to overlap corresponding signal contacts received in said at least two channels.

132 6. (once amended) The connector assembly of claim 1 wherein said impedance adjusting member is held adjacent said differential pair.

7. (once amended) An apparatus for controlling impedance within an electrical connector assembly including a housing and a plurality of signal contacts and a ground contact held in said housing, said signal contacts being arranged in a differential pair, said apparatus comprising:

an impedance tuner formed of a dielectric material different than air and adapted to be interchangeably secured in said housing, said impedance tuner including dielectric isolation ribs along a side of said impedance tuner mating with the signal contacts, said impedance tuner being positioned proximate the signal and ground contacts, wherein signal contacts of the differential pair are separated from the ground contact by one of said isolation ribs.

9. (once amended) The apparatus of claim 7 wherein said impedance tuner further includes:

at least one impedance adjusting insert removably secured to said impedance tuner, said at least one impedance adjusting insert being oriented parallel to a plane in which said signal contacts are arranged.

10. (once amended) The connector assembly of claim 7 further including an impedance adjusting insert securable to said impedance tuner block adjacent said signal contacts of said differential pair received in said isolation ribs.

A6 11. (once amended) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

a housing; and

B3 a plurality of signal contacts and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner, comprising:

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned within said cavity proximate said plurality of signal contacts and ground contacts, wherein said impedance adjusting metal insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.

14. (once amended) The system of claim 11 wherein said at least one impedance adjusting insert is a non-ferrous metal.

15. (once amended) A system for controlling impedance within an electrical connector assembly, comprising:

an electrical connector including:

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a housing; and

a plurality of signal contacts and ground contacts held in, and exposed from, said housing, said signal contacts being arranged in differential pairs;

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an interchangeable impedance tuner formed of a dielectric material different than air, said interchangeable impedance tuner including:

a plurality of dielectric isolation ribs;

an impedance adjusting insert; and

an insert receptacle for receiving said at least one insert,

said impedance tuner being positioned within said housing proximate said plurality of said signal contacts and ground contacts, wherein one of said plurality of dielectric isolation ribs is positioned between two adjacent signal and ground contacts, wherein said impedance adjusting insert is oriented parallel to said signal contacts, and wherein said impedance adjusting insert overlaps at least two signal contacts.

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17. (once amended) The system of claim 15 wherein said at least one insert is a non-ferrous metal.